



SE (070) 340 2440
Tx 31 651 epo nl
FAX (070) 340 3018

Zentrale f.
Den Haag
Recherche-
abteilung

Branches
The Hague
Search
Divisions

Co-ordinating
La Haye
Division de la
recherche

Maiwald Patentanwalts GmbH
Elisenhof
Elisenstrasse 3
80335 München
ALLEMAGNE

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Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°
00943309.5-2107/US0017955

Awarder/Applicant/Demandeur/Patent Inhaber/Proprietor/Titulaire
Marchosky, J. Alexander

COMMUNICATION

The European Patent Office herewith transmits the supplementary partial European search report under Rule 45(1) EPC relating to the above-mentioned European patent application.

Copies of the documents cited in the search report are enclosed.

The applicant's attention is drawn to the following:

The search Division informs the applicant that if the European search report is also to cover inventions other than the invention first mentioned in the claims, a further search fee must be paid for each of these inventions, within ONE MONTH after notification of this communication.

If the application has been filed up to 30 June 1999, the search fee in force before 01 July 1999 (EUR 850,-) or the equivalent applicable on the date of payment is payable.

This applies also to the search fees requested under Rule 45(1) EPC.

See also OJ EPO 06/1999, 405.

Moreover, the Search Division considers that the present European patent application does not comply with the provisions of the European Patent Convention to such an extent that it is not possible to carry out a meaningful search into the state of the art on the basis of some of the claims; reference is made to sheet C, which is attached to the search report.

☒ Additional set(s) of copies of the documents cited in the supplementary European search report is (are) enclosed as well.



Note to users of the automatic debiting procedure:

Unless the EPO receives prior instructions to the contrary, the search fee(s) will be debited on the last day of the period for payment. For further details see the Arrangements for the automatic debiting procedure, Supplement to OJ EPO 02/1999.

REGISTERED LETTER

EPO Form 1507.3 (07.99)

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**SUPPLEMENTARY
PARTIAL EUROPEAN SEARCH REPORT**
under Rule 46, paragraph 1 of the European Patent
Convention

Application Number

EP 00 94 3309

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|---|--|-------------------|--|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int.Cl.7) |
| X | WO 97 14376 A (ORQUEST INC) 24 April 1997 (1997-04-24) * page 8 * * page 10 * | 61, 63, 64 | C12N5/00 A61F13/00 A61L27/00 A61K35/32 A61P19/00 |
| X | DATABASE WPI Section Ch, Week 199638 Derwent Publications Ltd., London, GB; Class A11, AN 1996-378361 XP002230934 & JP 08 182753 A (KYOCERA CORP), 16 July 1996 (1996-07-16) * abstract * | 61 | |
| Y | --- | 62-64 | |
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| Y | --- | 62-64 | |
| | | | TECHNICAL FIELDS SEARCHED (Int.Cl.7) |
| | | | A61K A61F A61L A61P |
| LACK OF UNITY OF INVENTION | | | |
| The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely: | | | |
| see sheet 8 | | | |
| The present partial European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims. | | | |
| Place of search | Date of completion of the search | Examiner | |
| MUNICH | 1 April 2003 | Thalmair, M | |
| CATEGORY OF CITED DOCUMENTS | | | |
| X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document | | | |

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EPO FORM 1500 (03-03) (PUBLISHED)

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**SUPPLEMENTARY
PARTIAL EUROPEAN SEARCH REPORT**
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Application Number

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| Y | --- | 62-64 | |
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| Y | --- | 62-64 | |
| | | | TECHNICAL FIELDS SEARCHED (Int.Cl.7) |
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| LACK OF UNITY OF INVENTION | | | |
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| see sheet 8 | | | |
| The present partial European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims. | | | |
| Place of search | | Date of completion of the search | Examiner |
| MUNICH | | 1 April 2003 | Thalmair, M |
| CATEGORY OF CITED DOCUMENTS | | | |
| X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document | | | |

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EP 00 94 3309 (P44C22)

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 61-64

method of filling a bone defect comprising filling the bone defect with a rigid material consisting essentially of chitin or chitosan.

2. Claims: 56 (whole), 57-60 (part)

composition for promoting the growth and strengthening of bone comprising a mixture of

- hyaluronic acid,
- cancellous bone, and
- demineralized bone matrix

and method of inducing bone formation in a vertebrate applying such a composition to a site in the vertebrate where bone formation is desired.

3. Claims: 54-55 (whole), 57-60 (part)

composition for promoting the growth and strengthening of bone comprising a mixture of

- chitosan or chitosan derivative
- alginate
- cancellous bone, and
- demineralized bone matrix

and method of inducing bone formation in a vertebrate applying such a composition to a site in the vertebrate where bone formation is desired.

4. Claims: 50-53 (whole), 57-60 (part)

composition for promoting the growth and strengthening of bone comprising a mixture of

- alginate,
- calcium,
- cancellous bone, and
- demineralized bone matrix

and method of inducing bone formation in a vertebrate applying such a composition to a site in the vertebrate where bone formation is desired.

5. Claims: 46-49 (whole), 57-60 (part)

composition for promoting the growth and strengthening of bone comprising a mixture of

- a chitosan or chitosan derivative,
- cancellous bone, and
- demineralized bone matrix



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

and method of inducing bone formation in a vertebrate
applying such a composition to a site in the vertebrate
where bone formation is desired.

6. Claims: 1-45 (whole), 57-60 (part)

composition comprising four components selected from
(a) one or more angiogenesis-stimulating materials such as
fibroblast growth factors, vascular endothelial growth
factors etc.,
(b) one or more osteoinductive materials such as
demineralized bone matrix, non-decalcified bone matrix,
(c) one or more scaffolding materials such as cancellous
bone, chitosan etc.
(d) one or more gel materials such as chitosan, alginate,
hyaluronic acid etc.

and method of inducing bone formation in a vertebrate
applying such a composition to a site in the vertebrate
where bone formation is desired.

The application relates to a plurality of inventions in the sense of
Article 82 EPC for the following reasons.

The problems to be solved in respect of the present application are
distinct and separate, namely "how to fill a bone defect", "how to
induce bone formation in a vertebrate", "how to promote the growth and
strengthening of a bone".

The solutions of these problems, i.e. provision of multiple compositions
e.g. comprising a rigid material consisting essentially of chitin or
chitosan, or a mixture of hyaluronic acid, cancellous bone and
demineralized bone matrix, or a mixture of chitosan or chitosan
derivative, alginate, cancellous bone and demineralized bone matrix, or
a mixture of alginate, calcium, cancellous bone, and demineralized bone
matrix, or a mixture of a chitosan or chitosan derivative, cancellous
bone, and demineralized bone matrix, or a composition comprising four
components selected from (a) to (d), are considered to be separate and
distinct because the mixtures are different and do not necessarily have
components in common.

Moreover, since the compositions are different, there can be no single
general inventive concept in the sense of Article 82 EPC to link each of
the claimed combinations.



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INCOMPLETE SEARCH
SHEET C

Application Number
EP 00 94 3309

Although claims 57-64 are directed to a method of treatment of the human/animal body (Article 52(4) EPC), the search has been carried out and based on the alleged effects of the compound/composition.

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 94 3309

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

01-04-2003

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
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END FORM P0439

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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